



DNREC Virtual Public Hearing

Low Emission Vehicle Program (Docket #2022-R-A-0011)

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Delaware's Low Emission Vehicle 7 DE ADMIN. CODE 1140

Proposed amendments for Advanced Clean Car II

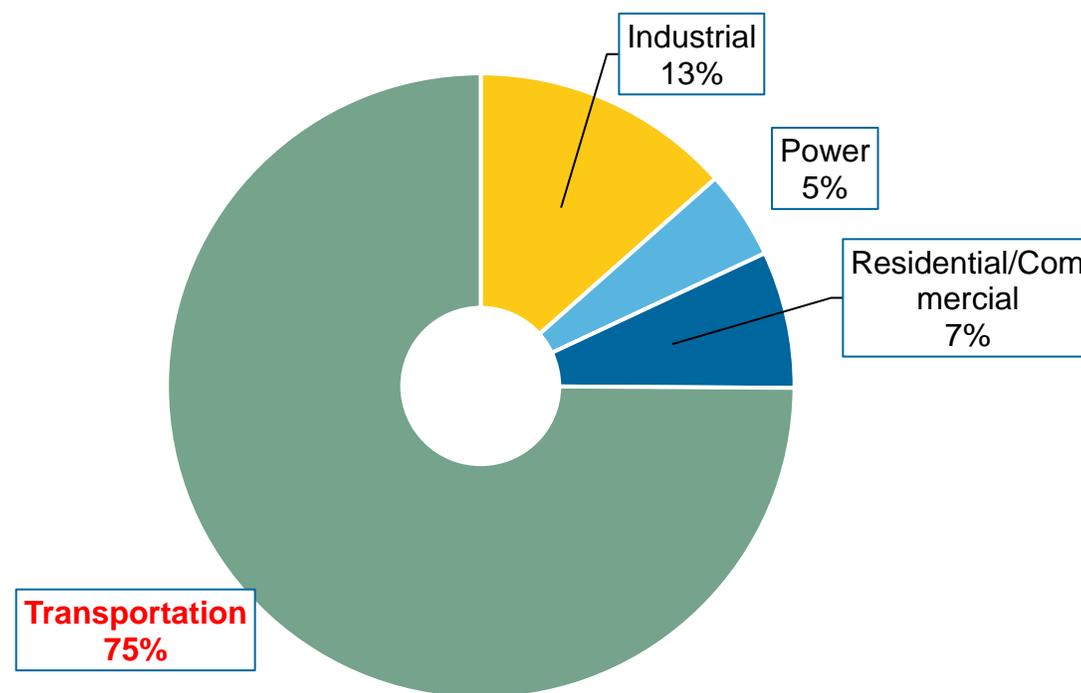
Virtual Public Hearing
April 26, 2023

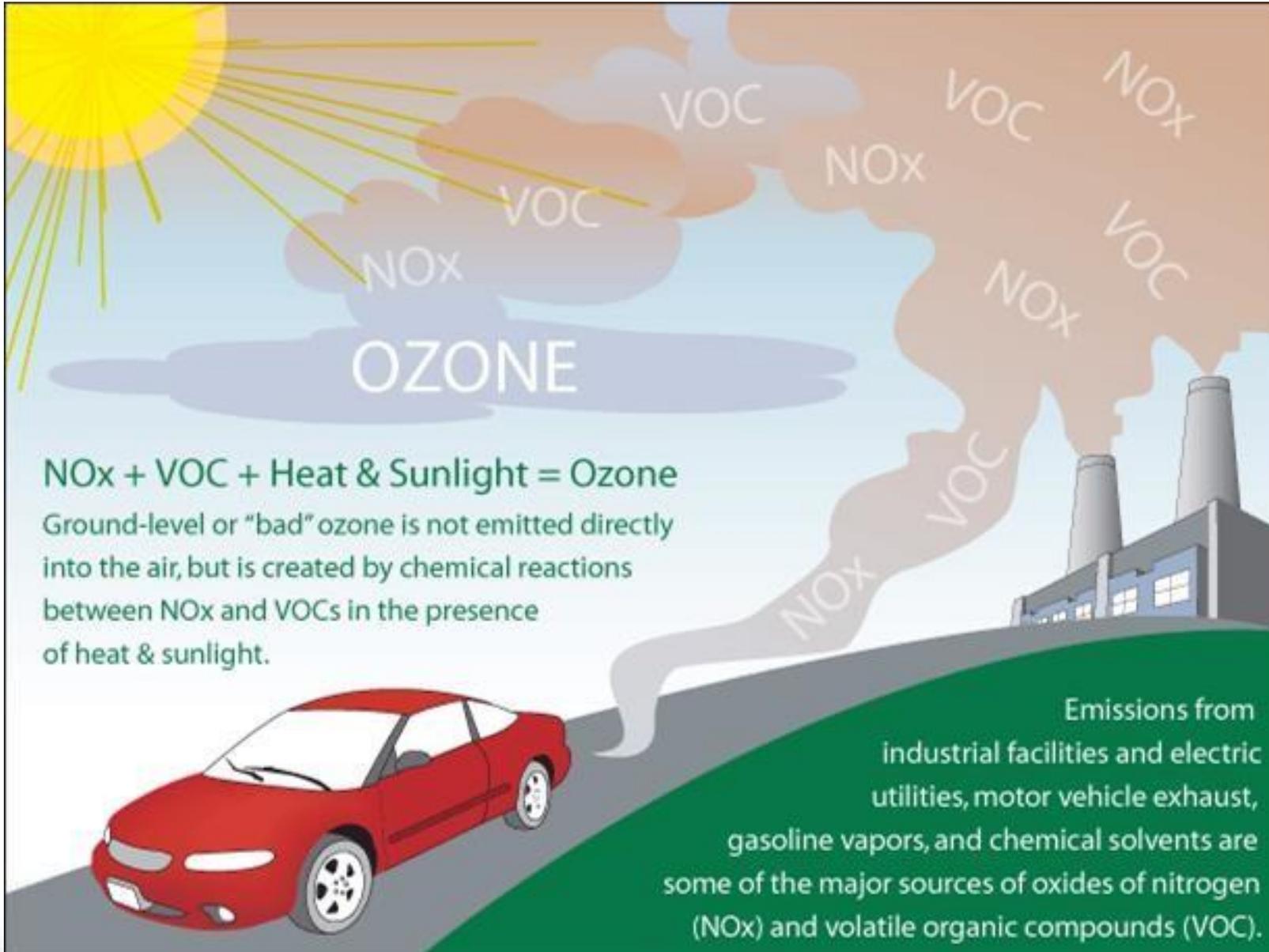


Background on Delaware's Air Quality

- DNREC has worked to reduce smog forming pollution by ~62% since 1990.
- Delaware's New Castle County is designated non-attainment for the federal ozone health-based standard.
- Vehicles continue to contribute air quality pollutant emissions – particulate matter, CO, NOx, and greenhouse gases.

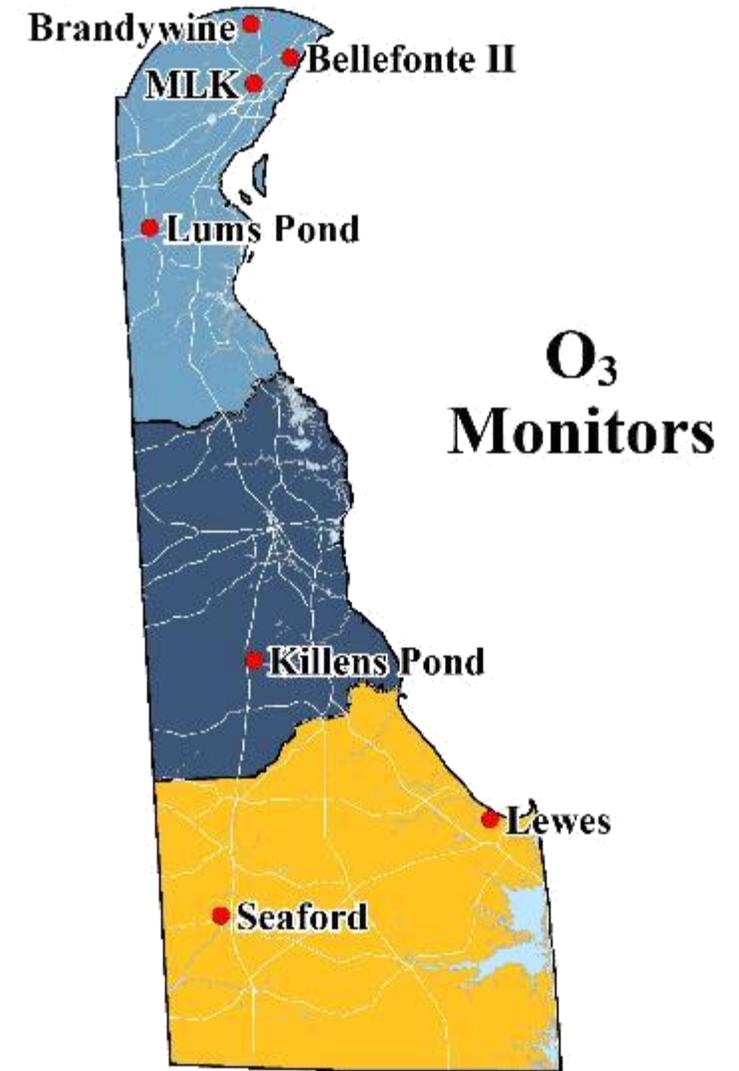
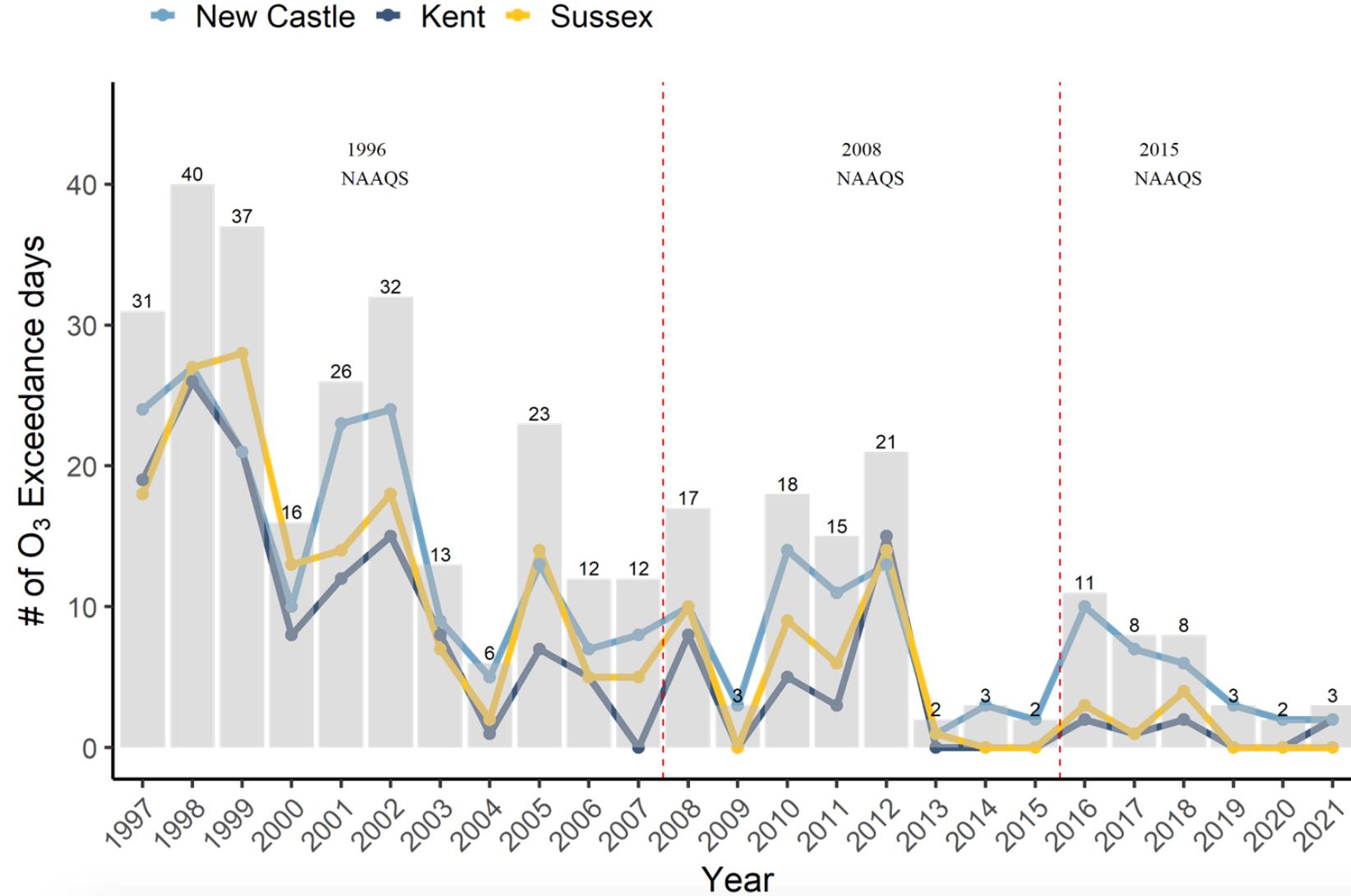
2017 NEI Delaware NOx Emissions by Sector

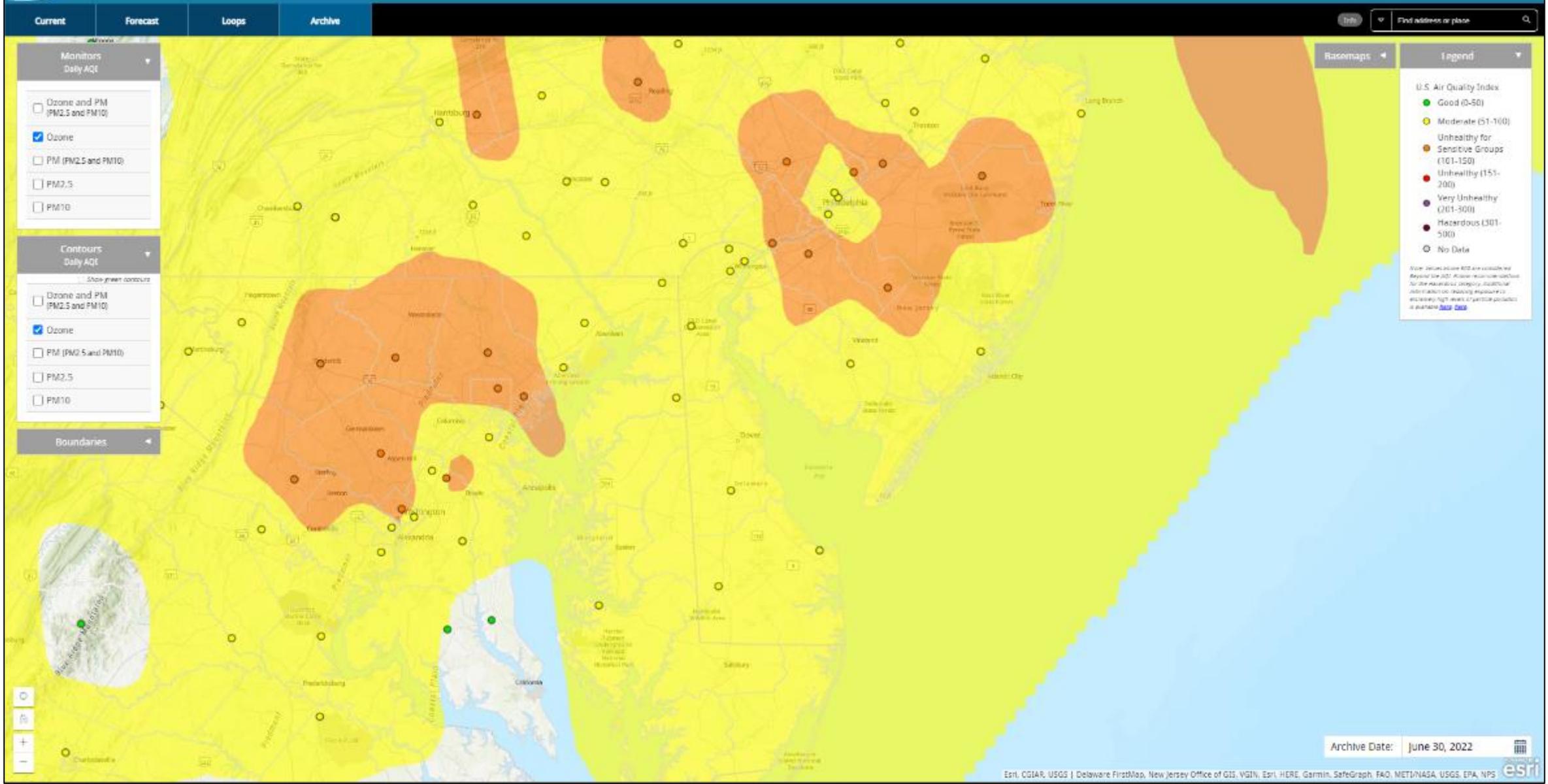




O₃ Yearly 8-hour NAAQS Exceedance Days

Exceedance Days by County: 1997 to 2021



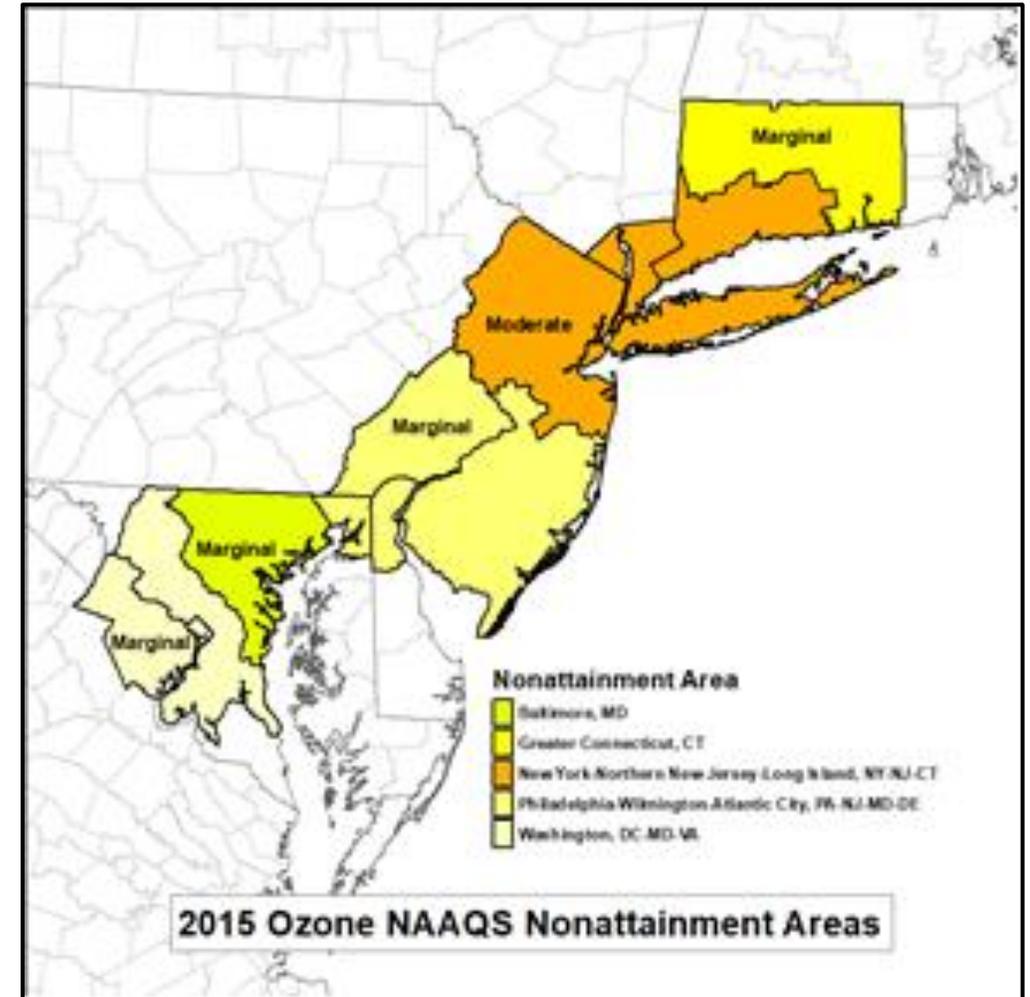


Non-attainment Area

DELAWARE	
New Castle County	
8-Hour Ozone (2008)	Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE - (Marginal)
8-Hour Ozone (2015)	Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE - (Marginal)*
Sussex County	
8-Hour Ozone (2008)	Seaford, DE - (Marginal)

*Bumped-up to Moderate, Sep. 2022

Delaware's non-attainment is tied to the greater Philadelphia area. The Buck's County air monitor continues to record levels above the federal Health-based standard of 70 ppb.



GHG Emissions from Transportation

- The largest source of GHG emissions in Delaware was the transportation sector, which represented 30% of the gross GHG emissions.
- Passenger cars and light-duty trucks represent 60% of Delaware's GHG emissions from transportation.

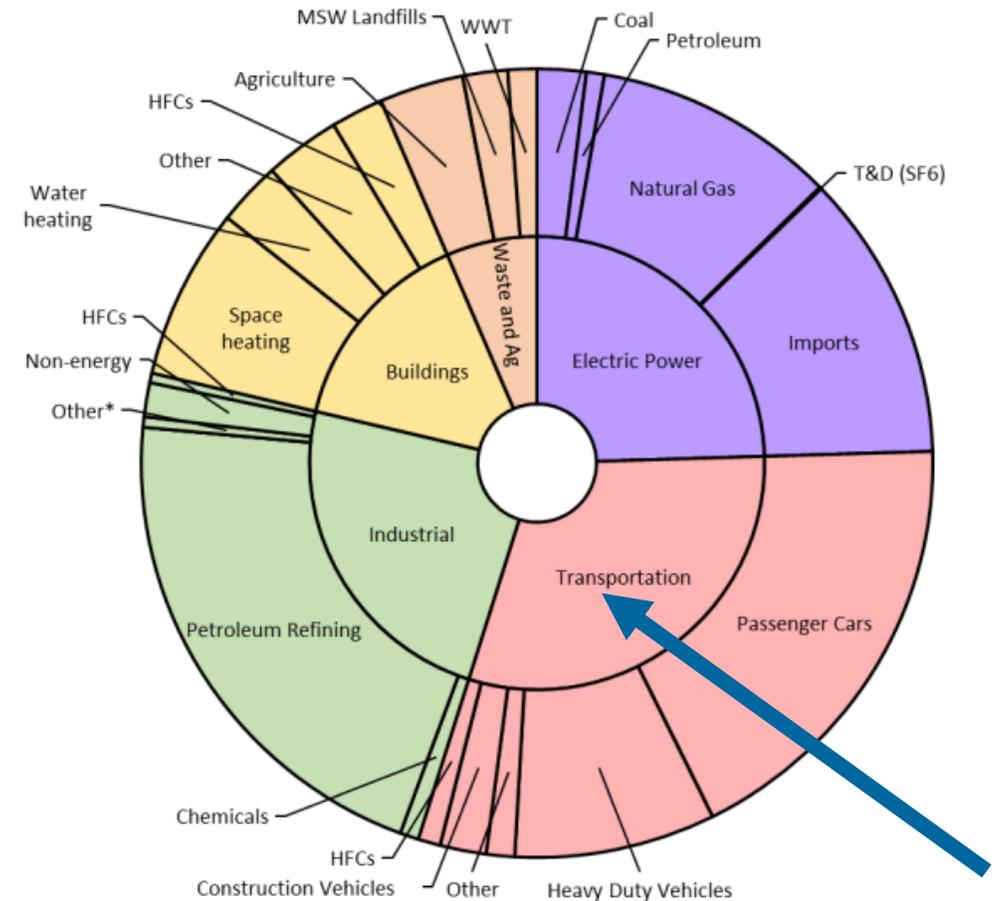


Figure 1. Gross GHG emissions in Delaware in 2018 broken out by sector and end-use (where applicable)

Health Impacts from Tailpipe Emissions

HUMAN HEALTH



Respiratory infections,
Asthma, COPD



Cardiovascular diseases



Stroke, Depression,
Headaches



Osteoporosis, Impaired
liver and kidney function

ENVIRONMENTAL HEALTH

Increased temperatures
and heavier rain storms



Poor water quality,
harmful to fish



Organ and
reproductive failure



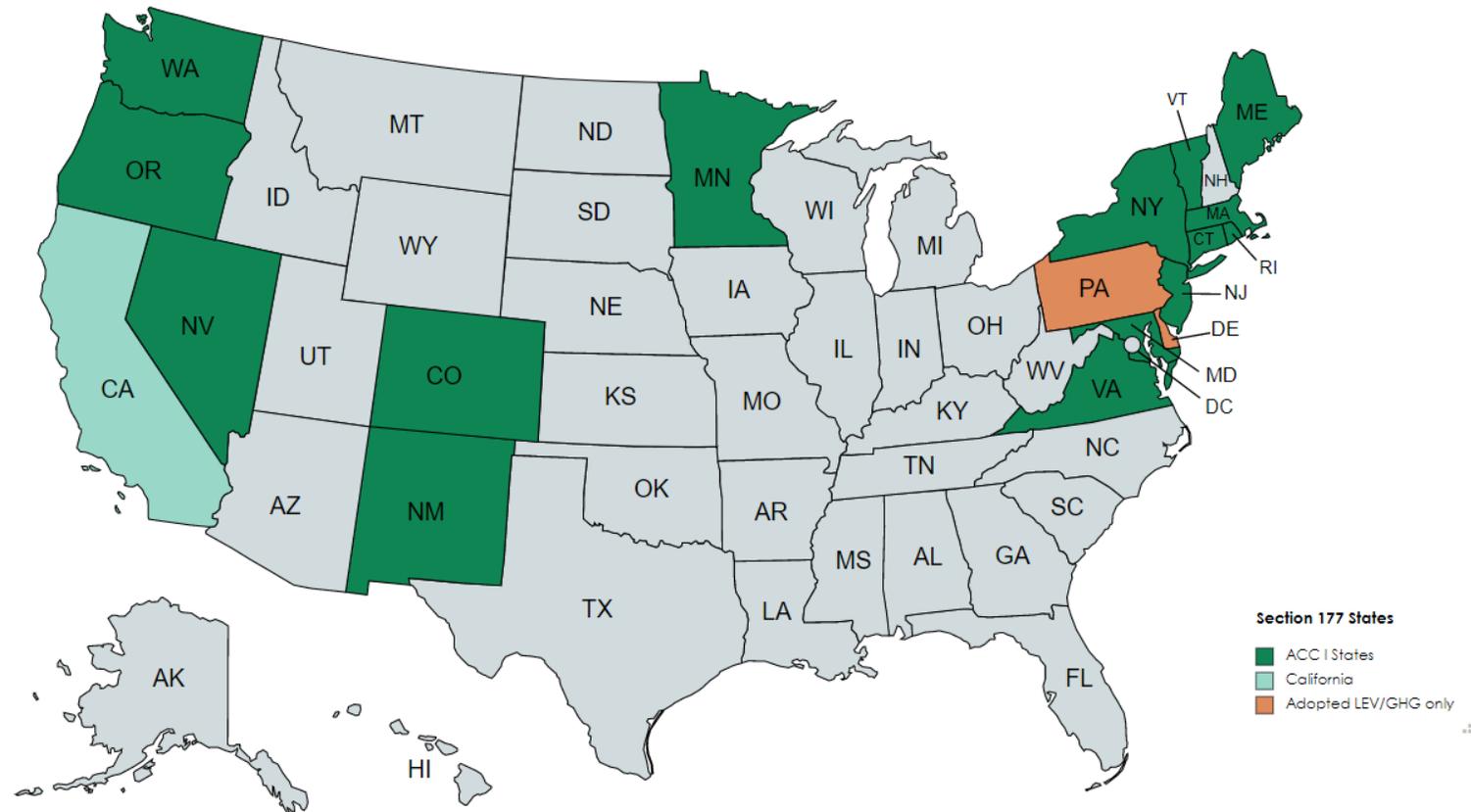
Crop damage,
contaminated soils



Clean Air Act and Vehicle Emission Standards

- In 1967, the federal Clean Air Act (CAA) established the framework for controlling mobile source emissions in the United States.
- Although states were preempted by Section 209 of the CAA from adopting state emissions standards, California was granted a special exemption to the federal preemption due to the state's unique air quality problems.
 - This exemption gave California the authority to set its own vehicle emission standards as long as such standards are at least as protective as the federal standards.
- A subsequent amendment to the CAA in 1990 added Section 177 that allows other states to adopt the California's vehicle emission standards instead of relying on the weaker federal standards.

California and the Section 177 States



Clean Air Act Limitations

- States can adopt more stringent emission standards but must do so identically with California's regulations.
- States must provide auto manufacturers a two years' advance notice before the start of the model year.
- Delaware has required new vehicles meet California's more stringent emission standards since 2014.
- Delaware's emission standards in place through the 2025 model year.

DNREC's Authority to Regulate Vehicle Emissions

Delaware Statutes

- Title 7 Chapter 60
 - Sections:
 - 6002, Definitions
 - 6003 Permits
 - 6010 Rules and regulations; plans
 - 6043 Findings, purpose and definitions
- Title 7 Chapter 67
 - Section
 - 6703 Standards for vehicle emissions

Advanced Clean Car 1 (model year 2015-2025)

- The ACC 1 program, first adopted by CARB in 2012, incorporated three elements that combined the control of smog-causing pollutants and GHG emissions into a single coordinated package of requirements for model years 2015 through 2025.
- These three elements included
 - Low-Emission Vehicle standards,
 - Greenhouse Gas standards (LEV III) and
 - Zero-Emission Vehicle (ZEV) requirements.
- Delaware's ACC1 program included only 2 of the 3 elements - Low Emissions and GHG standards.





Delaware to Adopt Zero Emission Vehicle Regulation

Goal is to Increase Electric Vehicle Availability, Purchases in First State and Save Delaware Drivers Money

WILMINGTON, Del. — Governor John Carney on Thursday announced that Delaware will join 13 other states in adopting California's Zero Emission Vehicle (ZEV) regulations, providing drivers looking to purchase an electric vehicle with more choices at Delaware dealerships.

"In 2017, we signed on to the U.S. Climate Alliance, committing to reduce our carbon emissions by at least 26 percent by 2025. Adopting ZEV regulations will help us make progress on those goals, as well as the other goals outlined in Delaware's Climate Action Plan," said **Governor Carney**. "By adopting the ZEV regulations, Delaware drivers won't have to go out of state to find an electric vehicle to purchase, and our dealerships will benefit by keeping Delaware customers in Delaware. By creating a better environment for the sale and purchase of electric vehicles, and aligning the environment with massive investments in infrastructure from the Bipartisan Infrastructure Law, we will create a positive electric vehicle future in our state."

Managed by the Delaware Department of Natural Resources and Environmental Control (DNREC), the ZEV program is designed to accelerate the commercialization of battery-electric, plug-in hybrid and fuel cell electric vehicles. The regulations mandate that a certain percentage of the vehicles delivered for sale in a state are ZEV vehicles. Manufacturers receive credits for each delivered vehicle based on the type of vehicle, range and other factors. Each year, manufacturers must meet a ZEV credit amount that is based on average annual sales. In states already in the program, the automobile industry has successfully met the required percentage.

Transportation is the leading source of greenhouse gas emissions in Delaware. **DNREC Secretary Shawn M. Garvin** said increasing the number of zero emission vehicles on Delaware roads, along with building out the state's electric vehicle charging network are key strategies outlined in Delaware's Climate Action Plan, a result of a two year-long process involving residents, businesses, and technical experts.

Advancing these strategies will reduce carbon pollution, improve air quality and help support fuel saving consumer. According to the U.S. Environmental Protection Agency, switching to an electric vehicle can reduce a driver's carbon footprint by up to 80 percent.

Delaware's Strategy to Address Air Emissions from Transportation

Advance Clean Car 2

- California proposed and adopted ACC2 this past November
- Auto manufacturers will produce and deliver for sale new vehicles that meet the more stringent vehicle emission standards and increasing numbers of zero emitting vehicles.
- Beginning with Model Year 2026 through 2035

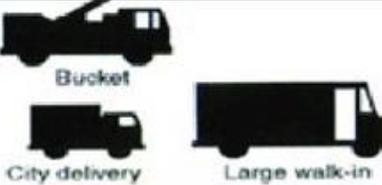
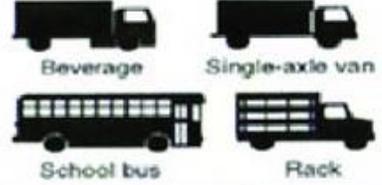


Who has a compliance obligation?

- The automobile manufacturers (Original Engine Manufacturer, OEM) are responsible for designing, producing and delivering vehicles to market that meet the ACC emission standards.
- Certify their vehicles meet the Criteria and GHG emission standards.
- Deliver an increasing number of Zero Emitting Vehicles for sale.
- ACC2 requirements will not ban Gasoline/Diesel vehicles in Delaware.

What types of vehicles are covered by ACC ?

Vehicles that weigh up to 14,000 lbs gross vehicle weight.

 <p>CLASS 1 6,000 lb & less</p>	 <p>CLASS 5 16,001 to 19,500 lb</p>
 <p>CLASS 2 6,001 to 10,000 lb</p>	 <p>CLASS 6 19,501 to 26,000 lb</p>
 <p>CLASS 3 10,001 to 14,000 lb</p>	 <p>CLASS 7 26,001 to 33,000 lb</p>
 <p>CLASS 4 14,001 to 16,000 lb</p>	 <p>CLASS 8 33,001 lb & over</p>

What are ZEVs

- Plug-in Hybrid EVs
- Zero Emitting Vehicles

Vehicles that weigh up to 14,000 lbs gross vehicle weight.



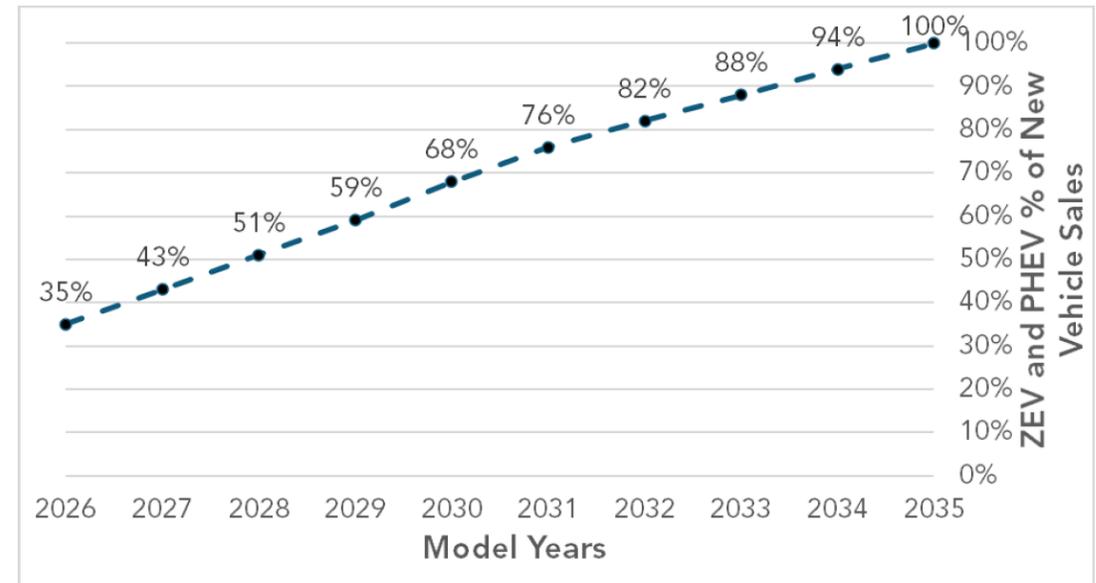
When would compliance begin?

- Beginning with model year 2027 and not model year 2026.
- This is due to Delaware's timeline for adoption of the California amendments.
- The California program commences with model year 2026 which begins January 2, 2025.

Program Elements – Zero Emission Vehicles



- ACCII is not a requirement that consumers purchase an electric vehicle.
- ACCII is a requirement imposed solely on auto manufacturers to deliver a certain annual percentage of ZEVs to Delaware, increasing to 100% ZEVs by 2035.
- The annual ZEV requirement aligns with where the market is expected to be in 2026 and continues to ramp up quickly.
- Small volume manufacturers must comply with the annual ZEV requirement beginning with the 2035 model year.



7 DE Admin Code 1140 – Delaware's Low Emission Vehicle Program

- Delaware will amend Regulation 1140
- Add language to include ZEV
- Add and update California CCRs by incorporating by reference



Flexibility Mechanisms

- PHEV Flexibility
- Community Based Clean Mobility Programs
- Early Compliance
- Pooling



ACC2 Projected Emission Reductions

- Cumulative ACC II Emissions Benefits Compared to the Business-as-Usual Scenario, 2025-2040 (Model Year 2026 implementation)

	No _x (tons)	PM _{2.5} (tons)	WTW CO ₂ e (mmt)
By 2030	123	8	1.2
By 2035	502	38	5.3
By 2040	1,169	85	11.9

ACC2 Projected Health Benefits

The annual health outcomes of Delaware's adoption of ACC II were estimated with COBRA. COBRA estimates the change in number of cases and their economic values for PM_{2.5}-associated health effects.

Analysis Year	Total NO _x Reduction (TPY)*	Total PM _{2.5} Reduction (TPY)*	In-State Benefit** (\$ millions)	Out-Of-State Benefit** (\$ millions)	In-State Burden*** (\$ millions)	Out-Of-State Burden*** (\$ millions)	Net Benefit**** (\$ millions)
2040	-158	-10	\$37.1	\$74.6	-\$3.2	-\$12.8	\$95.7

* Emissions reduction in tons per year

** The benefit of reduced on-road emissions

*** The burden of increased electric generation emissions

**** The sum of in-state and out-of-state benefits and burdens

ZEV Total Cost of Ownership

- Total cost of ownership over 10 years for individual Battery EV (BEV) and Plug-Hybrid EV (PHEV) buyer compared to baseline ICEV, 2035 light duty truck (LDT2) in Single Family Home

Cost Category	BEV		PHEV
	With home charger	No home charger	With home charger
Incremental vehicle price	\$1,364	\$1,364	\$3,640
Home Level 2 Charging cost	\$850		\$850
Finance costs (document fee for Titles & interest payments)	\$238	\$238	\$636
Incremental fuel costs	-\$7,589	-\$83	-\$4,772
Incremental maintenance costs	-\$6,451	-\$6,451	-\$1,129
Incremental insurance	\$682	\$682	\$1,820
Total (10 years)	-\$10,906	-\$4,250	\$1,046
Payback period	1.8	2.7	-



Complementary Policies to support the transition to clean transportation

- Vehicle Purchase Incentive Programs administered by the Division of Climate, Coastal and Energy
- Electric Vehicle Charging Infrastructure
 - Federal programs – IRA, NEVI,
 - State programs – VW, Electrify America
 - Private partnerships
 - Multi-unit dwelling infrastructure
- Electricity Time of Use Rates



Department Exhibits Include:

- Exhibit 1 - Start Action Noticed signed by Secretary Garvin on July 26, 2022
- Exhibit 2 – Interested Persons List
- Exhibit 3 – Oct 13, 2022 Key Stakeholder Meeting Materials
- Exhibit 4 – Oct 26, 2022 Key Stakeholder Meeting Materials
- Exhibit 5 – Nov 15, 2022 Public Workshop Meeting Materials
- Exhibit 6 – Nov 16, 2022 Public Workshop Meeting Materials
- Exhibit 7 – Nov 17, 2022 Public Workshop Meeting Materials
- Exhibit 8 – Dec 13, 2022 Public Workshop Meeting Materials
- Exhibit 9 – Dec 15, 2022 Public Workshop Meeting Materials



Department Exhibits Include:

- Exhibit 10 – Public comments received through Dec 2, 2022
- Exhibit 11 – Public comments received through Dec 30, 2022
- Exhibit 12 – Public comments received through Mar 31, 2023
- Exhibit 13 – Apr 26, 2023 Public Hearing Materials
- Exhibit 14 – Department’s Public Hearing Presentation
- Exhibit 15 – Technical Support Document
- Exhibit 16 – California Code of Regulations to be incorporated by reference
- Exhibit 17 – Supporting Documentation to the Technical Support Document
- Exhibit 18 – Proposed amendments to 7 DE Admin Code 1140



DNREC Virtual Public Hearing

Low Emission Vehicle Program (Docket #2022-R-A-0011)

Thank you for joining us. We will accept comments on this matter through May 25, 2023.

Comments may be submitted in writing

via [DNREC Comment form](https://dnrec.alpha.delaware.gov/public-hearings/comment-form/) - <https://dnrec.alpha.delaware.gov/public-hearings/comment-form/>

via [email](mailto:DNRECHearingComments@delaware.gov)- DNRECHearingComments@delaware.gov

or by USPS mail:

Theresa Newman, Hearing Officer

DNREC – Office of the Secretary

89 Kings Highway, Dover, DE 19901

The full verbatim transcript will be posted when it becomes available.

For more information, find the event page for this hearing on the DNREC Public Hearings page

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